REMARKS

Claims 1-8, 22-23, 25-28, 94-98, 114-115, 117, and 121-134 are pending. Claims 9-21, 24, 29-93, 99-113, 116, and 118-120 are canceled. Claims 121-126 are withdrawn. Amendments to claims 23, 131, 132, and 133 are presented. New claim 135 is presented as a withdrawn claim. Amendment and cancellation of certain claims is not to be construed as a dedication to the public of any of the subject matter of the claims as previously presented. No new matter is added. Applicants respectfully request entry of the amendment as it puts the claims in condition for allowance and/or puts the claims in better condition for appeal by limiting the number of issues on appeal.

I. Claim Objections

Claim 23 is objected to for depending from the withdrawn claims 121-126.

Applicants have amended claim 23 so that it no longer depends from claims 121-126

Applicants therefore respectfully request that the Examiner withdraw the objection.

II. Claim Rejection Under 35 USC §112

Claims 131 and 132 are rejected under 35 U.S.C. 112, second paragraph, as allegedly being indefinite for failing to particularly point out and distinctly claim the subject matter which applicant regards as the invention.

Applicants respectfully traverse the rejection and its supporting remarks. However, to facilitate prosecution, applicants have amended the claims to recite "wherein the polypeptide does not include a transmembrane domain region and a C-terminal cytoplasmic domain" and "the polypeptide does not include up to 70 amino acids of the C-terminus of SEQ ID NO: 6042", respectively.

Applicants therefore respectfully request that the Examiner withdraw the rejection.

III. Claim Rejection Under 35 USC §102 – Plummer

Claims 1, 2, 4-8, 22, 23, 27, 28, 94, and 113 have been rejected under 35 USC 102(e) as allegedly being anticipated by Plummer (U.S. 2007/0258999, Provisional application 60/465783, Effective filing date April 28, 2003), as evidenced by Dimitrov (U.S. 2006/0240515A1).

Applicants respectfully traverse the rejection and its supporting remarks. The Examiner has asserted that the instant claims are not supported prior to 60/473,144, filed on May 22, 2003. Applicants respectfully disagree. SEQ ID NO: 6042 referenced in the pending claims is disclosed in at least U.S. Provisional Application 60/462,748, filed on April 13, 2010 (the "'748 Application"), as SEQ ID NO: 147. *See, e.g.*, page 39 of the '748 Application. Page 39, clearly indicates that the invention includes amino acid sequences having a percent sequence identity to SEQ ID NO: 147, as well as fragments of SEQ ID NO: 147. In the interest of compactness, rather than list percent identities and fragment size after each disclosed polypeptide, applicants placed this information after the disclosed polypeptides. *See, e.g.*, the last paragraph on page 47 of the '748 Application, which indicates that the invention includes amino acid sequences having percent identity to the preceding amino acid sequences (which includes SEQ ID NO: 147). The percent identities include 80% as presently claimed. Furthermore, SEQ ID NO:147 is identified on page 37 of the '748 Application as a spike protein. The third paragraph on page 49 of the '748 Application further reinforces the support for the claimed 80% identity. Finally, the '748 Application discloses on the paragraph spanning pages 57 and 58 that the polypeptide fragments include the claimed ten consecutive amino acids. Therefore, applicants are entitled to a priority date of at least April 13, 2010.

As a further example, the U.S. Provisional Application 60/463,668, filed April 16, 2003 (the "'668 Application"), also predates Plummer and discloses the features identified by the Examiner. The corresponding SEQ ID NO: 147 is disclosed on page 44. This same page also indicates that the invention includes fragments and polypeptides with amino acid sequences having sequence identity to SEQ ID NO: 147. Again in the interest of compactness, the second full paragraph of page 117 of the '668 Application discloses the sizes of the fragments of the preceding

amino acid sequences (including SEQ ID NO: 147). The first full paragraph of page 117 of the '668 Application discloses the percent sequence identities to the preceding amino acid sequences (including SEQ ID NO: 147). Therefore, Plummer is not available as prior art due to having a later 102(e) date than either the '748 Application or the '668 Application.

Applicants therefore respectfully request that the Examiner withdraw the rejection.

IV. Claim Rejection Under 35 USC §103 – Genbank

Claims 1-8, 22, 23, 25-28, 94-98, 114, 115, 117 and 127-134 are rejected as allegedly unpatentable over the draft of GenBank AY274119 (allegedly available on April 12, 2003), Ksiazek *et al.* (N Engl J Med. 2003 May 15;348(20):1953-66. Epub 2003 Apr 10), (Tomley *et al.* (J Gen Virol. 68:2291-2298;1987); Cavanagh *et al.* (J Gen Virol. 1986;67: 1435-42); and Delmas *et al.* (J Virol. 64(11):5367-5375;1990).

Applicants respectfully traverse the rejection and its supporting remarks. GenBank AY274119 submitted April 14, 2003 did not actually disclose the spike protein *per se*, so neither would the draft alleged to be available on April 12, 2003. GenBank AY274119 cited by the Examiner was a later version dated March 24, 2004. *See,* Attachment 1 to the Office Action dated February 22, 2010. The version submitted on April 14, 2003 can be found at the following website: http://www.ncbi.nlm.nih.gov/nuccore/29826276 This version only discloses the raw nucleotide sequence of the genome. The original version does not identify ***any*** open reading frames, much less indicate if there even is a spike protein and, if so, where it can be found.

Ksiazek *et al.* cannot provide the motivation cited by the Examiner to utilize a spike protein from the SARS coronovirus. Ksiazek *et al.* only look at one small piece of the SARS coronavirus which does not include the spike protein. Ksiazek *et al.* only teach that the coding sequence of the polymerase shows some relationship to the coding sequences of coronaviruses. Moreover, as shown in Figure 3, Ksiazek *et al.* found that the SARS coronavirus does not fall into any of the three major antigenic groups. Rather, the polymerase coding sequence is roughly equidistant from all three groups and therefore seems to be in its own distinct group. Without clear

identification of a spike protein in the draft of GenBank AY274119, one of skill in the art would not necessarily have turned to the teachings of Tomley *et al.*, Cavanagh *et al.* or Delmas *et al.*

Applicants therefore respectfully request that the Examiner withdraw the rejection.

V. Claim Rejection Under 35 USC §103 – Plummer & Cavanagh

Claims 95-98 are rejected under 35 USC 103(a) as being unpatentable over Plummer (U.S. 2007/0258999), as applied to Claim 94 above, in view of Cavanagh D. *et al.* (J Gen Virol. 1986 Jul;67:1435-42).

Applicants respectfully traverse the rejection and its supporting remarks. As discussed above, Plummer is not available as prior art because the pending claims are entitled to an earlier priority date. By way of example, the first full paragraph on page 47 of the '668 Application discloses the claim features of each of claims 95-98: "said fragment does not include the last 50 amino acids of the C-terminus of SEQ ID NO: 6042," "said fragment does not include a transmembrane domain region of SEQ ID NO: 6042," "said fragment does not include a C-terminus cytoplasmic domain of SEQ ID NO: 6042", and said fragment does not include a N-terminus signal sequence."

Applicants therefore respectfully request that the Examiner withdraw the rejection.

VI. Claim Rejection Under 35 USC §103 – Plummer & Gasparini

Claims 25, 26, 114, 115 and 117 are rejected under 35 USC 103(a) as being unpatentable over Plummer (U.S. 2007/0258999), as applied to Claim 22 above, in view of Gasparini *et al.* (European Journal of Epideminology 17:135-140,2001).

Applicants respectfully traverse the rejection and its supporting remarks. As discussed above, Plummer is not available as prior art because the pending claims are entitled to an earlier priority date. Pages 84 through 88 of the '748 Application discloses the claim features of each of

claims 25, 26, 114, 115, and 117: "further comprising an adjuvant," "wherein the adjuvant is an aluminium salt or is MF59," "wherein the adjuvant is selected from the group consisting of a detoxified bacterial ADP-ribosylating toxin, a non-toxic double mutant form of Bordetella pertussis toxoids, chitosan, MF59, aluminium, an aluminium salt, and a SMIP," and "A method of stimulating an immune response in a subject comprising administering to the subject the immunogenic composition of claim 22." These four pages disclose a range of adjuvants that can be used with the immunogenic compositions. Page 84, lines 27-28, discloses that the immunogenic compositions can include adjuvants. Aluminium compounds and MF59 are even referred to specifically on page 88, line 12.

Applicants therefore respectfully request that the Examiner withdraw the rejection.

CONCLUSION

In view of the above, each of the presently pending claims in this application is believed to be in immediate condition for allowance. Accordingly, the Examiner is respectfully requested to withdraw the outstanding rejection of the claims and to pass this application to issue. If it is determined that a telephone conference would expedite the prosecution of this application, the Examiner is invited to telephone the undersigned at the number given below.

In the event the U.S. Patent and Trademark Office determines that an extension and/or other relief is required, Applicant petitions for any required relief including extensions of time and authorizes the Commissioner to charge the cost of such petitions and/or other fees due in connection with the filing of this document to **Deposit Account No. 03-1952** referencing **Docket No. 223002114100**. However, the Commissioner is not authorized to charge the cost of the issue fee to the Deposit Account.

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Respectfully submitted,

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